<div align="center"><u>REMARKS</u></div>

Reconsideration of this application as amended is respectfully requested.

In the Office Action, claims 1-29 were pending and rejected. In this response, claims 4, 8, 15, 19, 28, and 29 are canceled. Claims 1, 5, 9, 12, 16, 20, 23, and 26 have been amended to particularly point out and distinctly claim, in full, clear, concise, and exact terms, the subject matter which Applicants regards as the invention. No new matter has been added.

Rejections under 35 U.S.C. § 102

Claims 1-4, 8, 12-15, 19, and 23-29 are rejected under 35 U.S.C. 102(e) as being anticipated by U.S. Application No. U.S. 2004/0100979 of Mandin et al. (hereinafter "Mandin").

Claim 1, as amended, include limitation that is not disclosed by Mandin. Claim 1, as amended recites:

> 1. (Currently Amended) A method, comprising:
> determining, by a device that shares an upstream channel with other devices, whether based, at least in part on particular data, an upstream channel data transfer rate can be improved over a current data transfer rate of a current upstream channel from the device to a remote system; and
> improving by the device, if the upstream channel data transfer rate can be improved, the upstream channel data transfer rate based, at least in part, on the particular data,
> **wherein the particular data comprise the device's transmit queue capacity data, upstream channel bandwidth data transmitted from the remote system, or both**. (emphasis added)

Applicants respectfully submit that claim 1 requires determining whether an upstream channel transfer rate can be improved based at least in part on particular data, "**wherein the particular data comprise the device's transmit queue capacity data, upstream channel bandwidth data transmitted from the remote system, or both**". Mandin fails to anticipate at least this limitation.

Mandin is directed to filtering number of ACK sent via upstream channel. Mandin shows sending only the last acknowledgment in transmitter queue from a device in Figure 4 and abstract. The Office Action alleges that Mandin shows the device's transmit queue capacity data, the Applicants respectfully disagrees. Mandin shows an upstream transmission queue (28) that contains a few data sessions where each session has an ACK. The upstream transmission queue (28) does not disclose the **capacity** as claimed in "the device's transmit queue capacity data". The Office Action also alleges that Mandin (Figure 1) describes "upstream channel bandwidth data transmitted from the remote system". The Applicants respectfully disagree. Mandin shows an exemplary cable modem communication in Figure 1, which consists of a CMTS, upstream ACKS, downstream data, a cable modem, a user terminal and a server. Mandin fails to disclose the data, specifically data about "upstream channel bandwidth", as required in claim 1. To be brief, Mandin discloses filtering the acknowledgement packet and only sending the last acknowledgement packet, the disclosure does not involve improving data transfer rate based at least in part on "**the device's transmit queue capacity data**" and "**upstream channel bandwidth data transmitted from the remote system**"

Therefore, the Applicants submit that Mandin fails to anticipate claim 1, and respectfully request that the Examiner withdraw this rejection. As to claims 2 and 3 these depend on claim 1, are believed to be patentable for at least the reasons discussed in support of their base claim. The applicants respectfully request that the rejections of these claims be withdrawn as well.

Regarding claims 12, 23 and 26, the claims have been amended and include substantially the same limitation. Applicants submit that Mandin fails to disclose determining

whether an upstream channel transfer rate can be improved based at least in part on particular data, "**wherein the particular data comprises the devices's transmit queue capacity data or upstream channel bandwidth data transmitted from the remote system**". The detailed remarks with respect to independent claim 1 are incorporated here by reference. Therefore, the applicants believe that the claims are allowable and respectfully request the rejections for these claims to be withdrawn. Claims 13, 14, 24, 25 and 27 depend directly or indirectly on claim 12, 23, and 26 and are believed to be patentable for at least the reasons discussed in support of that base claims. Applicants respectfully request that these rejections be withdrawn as well.

Rejections under 35 U.S.C. § 103

Claims 5-7 and 16-18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Mandin in view of U.S. Patent No. 2003/0058795 A1 of Lansing et al. (hereinafter "Lansing").

It is well established that obviousness requires a teaching or a suggestion by the relied upon prior art of all the elements of a claim (M.P.E.P §2142). Without conceding the appropriateness of the combination, Applicants respectfully submit that both Mandin and Lansing fail to disclose "the device's transmit queue capacity data" in claim 1 and "wherein the device comprises a cable modem" as recited in claim 2. Claims 5-7 indirectly depend on claim 1 and claim 2.

Mandin fails to disclose teaching in independent claim 1 as explained in the foregoing section. The detailed remarks with respect to independent claim 1 are incorporated here by reference. The Office Action alleges that Lansing discloses the transmit queue capacity data.

The Applicants respectfully disagree. Lansing discloses an SDRAM in a CMTS storing priority queues, and some registers (Lansing, 0026-0027, figure 1). The local SDRAM is a fixed shared memory space (Lansing 0043). CMTS drops lower priority packets if the SDRAM is getting full (Lansing, 0033 and 0039). Lansing does not disclose "the device's transmit queue capacity data" and "wherein the device comprises a cable modem" as recited in claims 1-2. Lansing discloses a priority queue in CMTS but not in the cable modem. Lansing drops packet in order to free up space in the fixed shared memory space, which is not "increasing the capacity of the transmit queue" as recited in claim 6 or "initiating a service flow" as required in claim 7.

For the foregoing reasons, Applicants respectfully submit that claims 5-7 are believed to be patentable. Applicants respectfully request that the rejections for the claims be withdrawn.

Claims 16-18 depend on amended claims 12 (amended) and 13 were rejected by the same reason as stated in the Office Action. For at least the same remarks with respect to claims 6-8, the Applicants submit that claim 16-18 are allowable and the Applicants respectfully request that the rejections for the claims be withdrawn.

Claims 9-11 and 20-22 are rejected under 35 U.S.C. 103(a) as being unpatentable over Mandin in view of U.S. Patent No. 6236678 B1 of Horton et al. (hereinafter "Horton").

Without conceding the appropriateness of the combination, Applicants respectfully submit that both Mandin and Horton fail to disclose "the device's transmit queue capacity data" and "wherein the device comprises a cable modem" as recited in claims 1-2 which claims 9-11 indirectly depend on. Mandin fails to disclose teaching in independent claim 1 as

explained in the foregoing section. The detailed remarks with respect to independent claim 1 are incorporated here by reference. Claim 10 further claims "calculating an available bandwidth of each upstream channel based, at least in part, on the UCD message and the MAP message" and "determining whether a different upstream channel has more bandwidth that the current upstream channel." Claim 11 further includes "switching to the different upstream channel, if the different upstream channel has more available bandwidth than the current upstream channel." Horton discloses lookup tables to determine physical length (PHY L) which is part of the content of UCD. Horton also describes an exemplary cable modem system where a downstream processor receives, among other things, UCD and MCP from a CMTS (Horton, col. 5, line 50-54, and Figure 3). Both the references, Mandin combined with Horton, fail to disclose the limitations such as: "calculating an available bandwidth of each upstream channel based, at least in part, on the UCD message and the MAP message", "determining whether a different upstream channel has more bandwidth that the current upstream channel", and "switching to the different upstream channel, if the different upstream channel has more available bandwidth than the current upstream channel".

For the foregoing reasons, Applicants respectfully submit that claims 9-11 are believed to be patentable. Applicants respectfully request that the rejections for the claims be withdrawn.

Claims 20-22 depend on amended claims 12 (amended) were rejected by the same reason as stated in the Office Action. For at least the same remarks with respect to claims 9-11, the Applicants submit that claim 20-22 are allowable and the Applicants respectfully request that the rejections for the claims be withdrawn.

CONCLUSION

In view of the foregoing, Applicant respectfully submits the present application is now in condition for allowance. If the Examiner believes a telephone conference would expedite or assist in the allowance of the present application, the Examiner is invited to call the undersigned attorney at (408) 720-8300.

Please charge Deposit Account No. 02-2666 for any shortage of fees in connection with this response.

Respectfully submitted,

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